oriented in a second direction.

REMARKS

Claims 1 through 6, 8 through 12, 22 through 28, and 30 are pending in this application. New claim 31 is presented herewith for examination. Claim 27 stands rejected under 35 U S.C. § 102 as being anticipated by Erturk, IEEE #0-7803-3216 (hereinafter "*Erturk*"). Claims 1 through 4, 6, 8, 9, 11, 12, and 22 through 26 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,530,919 to Tsuru et al. (hereinafter "*Tsuru*") in view of *Erturk*, U.S. Patent No. 5,542,106 to Krenz et al. (hereinafter "*Krenz*"), and U.S. Patent 5,400,040 to Lane et al (hereinafter "*Lane*"). Claims 5 and 10 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over *Tsuru*, *Krenz*, *Lane*, and *Erturk*, and further in view of U.S. Patent No. 6,134,420 to Flowerdew et al. (hereinafter "*Flowerdew*"). Claim 28 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over *Erturk*. Claim 30 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over *Erturk* and further in view of U.S. Patent No. 4,849,767 to Naitou (hereinafter "*Naitou*"). These rejections are respectfully traversed.

Rejections under 35 U.S.C. § 102

Claim 27 stands rejected under 35 U.S.C. § 102 as being anticipated by *Erturk*. In particular, it is alleged that *Erturk* discloses "optimiz[ing] the impedance of the antenna (page 1 line 29-page 2 line 19) for use with the rest of the wireless device (page 1 lines 1-3)." This rejection is respectfully traversed.

Erturk fails to provide a prima facie reference for rejection of claim 27 under 35 U.S.C. § 102, at least for the reason that it fails to disclose "determining the output impedance of a transmitter amplifier of a wireless device; performing a finite element analysis on a design of a patch antenna to determine an estimated output impedance; adjusting the area of the patch antenna if the estimated output impedance does not approximately match the transmitter amplifier output impedance." Nothing in *Erturk* discloses or teaches "determining the output impedance of a transmitter amplifier." The phrase "output impedance" is not even used in the *Erturk* reference. "Adjusting the area of the patch antenna if the estimated output impedance

does not approximately match the transmitter amplifier output impedance" provides numerous advantages, including but not limited to increased efficiency. As *Erturk* discloses matching the characteristic impedance of a microstrip line to that of the antenna, (page 1, ¶ 4), it utterly fails to disclose "adjusting the area of the patch antenna if the estimated output impedance does not approximately match the transmitter amplifier output impedance," and fails to be either an anticipating reference for claim 27 under 35 U.S.C. § 102, or a reference for use in combination with any other reference for rejection of claim 27 under 35 U.S.C. § 103, because one of ordinary skill in the art would read *Erturk* as teaching that the impedance of the patch antenna must be adjusted to match the impedance of the microstrip line, instead of the output impedance of a transmitter amplifier. Withdrawal of the rejection of claim 27 and allowance is respectfully requested.

Rejections under 35 U.S.C. § 103

Claims 1 through 4, 6, 8, 9, 11, 12, and 22 through 26 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over *Tsuru* in view of *Krenz*, *Lane*, and *Erturk*. Claims 5 and 10 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over *Erturk*, *Lane*, *Tsuru* and *Krenz*, and further in view of *Flowerdew*. Claim 28 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over *Erturk*. Claim 30 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over *Erturk* and further in view of *Naitou*. These rejections are respectfully traversed.

All of the rejections under 35 U.S.C. § 103(a) include *Erturk* or a combination with *Erturk*. As previously noted, *Erturk* fails as a reference for use in combination with any other reference for rejection of claims 1 through 6, 8 through 12, 22 through 26, 28, and 30 under 35 U.S.C. § 103, because one of ordinary skill in the art would read *Erturk* as teaching that the impedance of the patch antenna must be adjusted to match the impedance of the microstrip line. Furthermore, to the extent that none of *Krenz*, *Tsuru*, *Flowerdew*, or *Naitou* disclose or teach that "the impedance of the antenna [can be] determined by performing a finite element analysis on a design of the antenna to determine an estimated output impedance, and adjusting the antenna if the estimated output impedance does not approximately match the transmitter amplifier output impedance," and do not suggest a combination with another reference, any reference that merely

teaches that an antenna can be designed using finite element analysis does not provide a suitable reference for combination with *Krenz*, *Tsuru*, *Flowerdew*, or *Naitou*. Applicants note that this argument was made in response to the prior rejection of these claims, and that it was stated in the pending Office Action that these arguments were considered but were moot as to claims 1, 4, 8, 9, 11, 12, and 22-26 in view of the new grounds of rejection. The arguments were not moot, as *Erturk* merely shows that an antenna can be designed using finite element analysis.

Furthermore, the need for the combination of *Erturk*, *Tsuru*, *Krenz*, and *Lane* to support the rejection of claims 1 through 4, 6, 8, 9, 11, 12, and 22 through 26, and *Erturk*, *Tsuru*, *Krenz*, *Lane*, and *Flowerdew* to support the rejection of claims 5 and 10, proves that the claimed invention was being used as a roadmap, and that these references were merely selected in hindsight based on the teachings of the pending application in an attempt to provide all of the elements of the claimed invention. If the claimed invention is obvious in light of this large number of references, why was it not obvious in the first Office Action? Clearly, after examining the claims the first time, the claimed combination of references did not render any claims obvious, and it was necessary to search for additional references in light of the arguments presented in response to the first Office Action, using the claims as a roadmap of what to look for. The combination yet again fails to provide a prima facie basis for rejection, further eroding support that any combination of references would render the claims obvious even if the combination provides a prima facie basis for the rejection.

In regards to claim 28, as *Erturk* fails to provide a basis for rejection of claim 27 under 35 U.S.C. §§ 102 and 103 for the reasons stated, it also fails to provide a basis for the rejection of claim 28 under 35 U.S.C. § 103. In regards to claim 30, merely replacing *Krenz* with *Erturk* to provide support for the rejection under 35 U.S.C. § 103 shows that the claimed combination is far from obvious, and still fails to disclose "a transmitter amplifier coupled to the antenna, the transmitter amplifier having an output impedance that matches the impedance of the antenna." For example, *Krenz* also discloses a transmission line 317 that is used to connect the antenna 105 to the transceiver 315. Both *Krenz* and *Erturk* thus both include a transmission line between the antenna and the transmitter amplifier.

Withdrawal of the rejection of claims 1 through 6, 8 through 12, 22 through 26, 28 and

30 and allowance of those claims is therefore respectfully requested.

New claim 31 is presented for examination, and is allowable for at least the reasons that it depends from an allowable base claim and adds limitations not found in the prior art.

Conclusion

The Applicants have made a diligent effort to advance the prosecution of this application, and respectfully submit that the rejection of all pending claims has been overcome and request that the rejections be withdrawn. The Examiner is invited to contact the Attorney for the Applicants at the telephone number provided below if further explanation of the Applicants' position would help to advance the prosecution of the application.

No fee is believed due with this Response. If any required fee has been overlooked, the Commissioner of Patents and Trademarks is hereby authorized to charge any fee deficiency or to credit any fee overpayment relating to this matter to Deposit Account No. 01-0657.

Respectfully submitted,

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